Math 211
Quiz 11

M 22 Jul 2019

Your name : _____

Exercise

(2 pt) Fix the following notation:

- Let $I \subseteq \mathbf{R}$ denote the closed interval $[0, 1]$.
- Let $\mathscr{C}^0(I)$ denote the vector space over $\mathbf{R}$ of continuous functions $f : I \to \mathbf{R}$.
- Let $\mathbf{R}^3$ denote the vector space over $\mathbf{R}$ of 3×1 matrices whose entries are real numbers.

Circle the corresponding letter if the subset $W \subseteq V$ described is a subspace of the given vector space V.

(a) $V = \mathbf{R}^3$, W is the set of matrices $\begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix}^T \in V$ such that $x_1 + x_2 + x_3 = 0$.

(b) $V = \mathbf{R}^3$, W is the set of matrices $\begin{bmatrix} x_1 & x_2 & x_3 \end{bmatrix}^T \in V$ such that $x_1 x_2 x_3 = 0$.

(c) $V = \mathscr{C}^0(I)$, W is the set of functions $f \in V$ such that $f(1) = 0$.

(d) $V = \mathscr{C}^0(I)$, W is the set of functions $f \in V$ such that $f(0) = 1$.